JOURNAL

journal home page: https://goicare.web.id/index.php/JNJ

Description of The Level of Knowledge of Basic Life Support (BlS) With Readiness To Perform Bhd Actions on Anesthesiologists

Nurul Hidayati[1], Asmat Burhan[1], Rahmaya Nova Handayani[1]

[1]Anesthesiology Nursing Undergraduate Program, Faculty of Health, Harapan Bangsa University

OPEN ACCESS

CROSS-SECTIONAL DESIGN

ARTICLE HISTORY

Received: September 6, 2024
Revised: October 30, 2024
Accepted: February 1, 2025

DOI: 10.61716/jnj.v3i1.87

***Corresponding author:**
Nurul Hidayati
Anesthesiology Nursing Study Program Undergraduate Program Faculty of Health Harapan Bangsa University, Indonesia Jl. Raden Patah No.100, Ledug, Kembaran, Purwokerto, Banyumas, Central Java, Indonesia.

Email:
nurulhidayativivo55@gmail.com

Abstract

Background: Cardiac arrest is one of the significant risks among those associated with surgery, interventional procedures, or anesthesia. Basic life support (BLS) is the immediate action taken in critical or emergency situations to save lives. The health care personnel must possess adequate knowledge and ability to handle such emergencies effectively. Anesthesiologists must necessarily be BLS proficient to give an early intervention during emergencies just like any other medical professional. **Purpose:** This study will evaluate the knowledge and preparedness of BLS among the anesthesiologists of the Central Surgical Installation in Banyumas Regency. **Methods:** The study used a cross-sectional design. Data were collected using surveys dispatched online to the 47 participants through Google Forms from June 19 to 28, 2024, in Banyumas Regency. **Results:** The results showed that 32 participants (72.3%) possessed excellent knowledge of BLS; however, 24 of 47 responders (51.1%) felt that they were adequately prepared for BLS action when needed. **Conclusion:** The study disclosed a positive correlation between BLS knowledge and preparedness to perform BLS among anesthesiologists in the Banyumas Regency, thus stressing continuing education and training to promote preparedness in case of emergencies.

Keywords: basic life support, anesthesiology, cardiopulmonary resuscitation, emergenccy medical service

Introduction

Globally, cardiovascular illness is responsible for 30% of all fatalities; of these, over 50% are attributable to cardiac arrest, the most prevalent form of sudden cardiac death [1]. Although there has been little research on the mortality and morbidity rates of in-hospital cardiac arrests, anesthesiologists do feel that the frequency of IOCA is declining. How often IOCA occurs in various healthcare facilities and nations. From 1.05 per 10,000 anesthetics to 34.6 per 10,000 anesthetics, the incidence rate of IOCA ranges in clinical trials, with survival rates ranging from 35.6% to 46.6%. IOCA may happen for a variety of reasons, some of which include heart issues, hemorrhage, acidosis, electrolyte imbalances, neurological reflexes, drugs, surgery, and anesthesia [2-4].

Compared to the 10% death rate after cardiac arrest in an inpatient setting, the perioperative period has a much higher mortality rate (30.5%-80%) [5]. The mortality risk from perioperative cardiac

arrest is above 50%, making it an uncommon but potentially life-altering event. Cardiopulmonary resuscitation was used on 1 out of every 203 surgical patients, according to data gathered from 250 US institutions, which accounted for 1.3 million surgical cases. With a mortality rate of over 50% in the first 30 days postoperatively, this was more prevalent in cardiac surgery compared to general surgery (1 in 33: 1 in 258) [6].

Among the dangers of surgery, interventional treatments, and anesthesia is the possibility of cardiac arrest. One research found that out of every 200 patients having certain elective procedures in hospitals had a cardiac arrest [2]. This study was part of the American College of Surgeons' National Surgical Quality Improvement Program (NSQIP). Basic life support, often known as cardiopulmonary resuscitation (CPR), is the best tool to use in situations involving cardiac arrest. When a person has a cardiac arrest or a respiratory arrest, the goal of cardiopulmonary resuscitation (CPR) is to get their important organs working again. Whether or not a victim of cardiac arrest survives depends critically on CPR [8-9].

To keep blood flowing and oxygen levels high in patients with heart failure, cardiopulmonary resuscitation involves using both mechanical breathing and chest compressions. The CPR protocol is spoken as follows: compressions, airway opening, and breathing. The pressure and depth of the chest have been revised; now, adults should have their chests compressed at a pace of 100–120 compressions per minute, while infants should have theirs around 4 cm deep [6].

The standard treatments for cardiac arrest, such as cardiopulmonary resuscitation (CPR) and the use of an external automated defibrillator (AED), involve breathing into the chest to open the airway and increase blood flow to the organs, which increases the likelihood that the patient will survive [7].

The fundamentals of BHD and cardiopulmonary resuscitation (CPR) should be known by all practicing anesthesiologists. As a vital part of any healthcare team, knowing how to do cardiopulmonary resuscitation is an absolute must. Emergency rescue treatments involving cardiopulmonary resuscitation are best handled by anesthesiologists with expertise in these areas [8]. Emergency situations involving cardiac arrest necessitate that anesthesiologists remain on high alert at all times [9]. Cardiopulmonary resuscitation (CPR) is a crucial link in the survival chain after a cardiac arrest. For cardiac arrest to be properly implemented, including enhanced life support and integrated post-cardiac arrest treatment, it is crucial that anesthesiologists have access to up-to-date information [10].

In light of the above, it is of interest to researchers to examine the level of basic life support (BHD) knowledge and readiness to perform BHD actions among anesthesiologists at the central surgical installation of the banyumas district. Previous studies have shown that anesthesiologists lack sufficient knowledge about cardiopulmonary resuscitation (CPR), chest compressions, and teamwork from the viewpoint of doctors, surgeons, and anesthesiologists.

Methods

A cross-sectional design was used in the investigation. For this study, we used Google Forms to survey 47 individuals in 2024 (11 female and 36 male) from all hospitals in Banyumas Regency who were employed by the Central Surgical Installation. The study was place in Banyumas Regency from June 19th to the 28th, 2024. The Harapan study Ethics Committee of Universitas Bangsa has given

its consent to this study, with approval number B.L.PPM-UHB/530/06/2024.

Results

Frequency of Respondent Characteristics

Based on age, gender, education level, and tenure (n=47), the following table displays the frequency distribution of respondent characteristics:

Characteristics	Frequency (f)	Percentage (%)
Age		
a. 21-30 Years	5	10.6
b. 31-40 Years	23	48.9
c. >40 Years	19	40.4
Gender		
a. Male	35	74.5
b. Female	12	25.5
Last Education		
a. Bachelor (S-1) Nursing	9	19.1
b. D-IV Anesthesiology Nursing	24	51.1
c. D-III Anesthesiology Nursing	1	2.1
d. D-III Nursing	12	25.5
e. Others	1	2.1
Period of employment		
a. <5 Years	7	14.9
b. >5 Years	47	85.1
Total	47	100

According to Table 1, the majority of the respondents were between the ages of 31 and 40 (48.9% of the total), men made up 34 (74.5% of the total), 24 (51.1% of the total) had the most recent degree in D-IV anesthesiology nursing, and 40 (85.1% of the total) had been in their current position for more than five years.

Overview of Anesthesiologists' Knowledge Level in Banyumas Regency IBS on BHD

Table 2. Frequency Distribution Based on Level of Knowledge about BHD among Anesthesiologists in IBS Banyumas Regency (n=47)

Variable	Frequency (f)	Percentage (%)
Knowledge level		
Good	34	72.3
Fair	12	25.5
Less	1	2.2
Total	47	100

Based on table 2, it is known that out of 47 respondents, 34 respondents (72.3%) had a good level of knowledge about BHD. The level of knowledge based on each indicator of BHD can be seen in table 2.

Table 3. Distribution Analysis of Anesthesiologist's Knowledge Level in IBS Banyumas Regency on BHD Based on Age, Gender, Education Level and Years of Service (n=47)

Characteristics	Level 0f knowledge about BHD							
	Good		Fair		Less		Total	
	f	%	f	%	f	%	f	%
Age								
21-30 Years	4	11.8	1	8.3	0	0.0	5	10.6
31-40 Years	15	44.1	7	58.3	1	100	23	48.9
>40 Years	15	44.1	4	33.3	0	0	19	40.4
Total	34	100	12	100	1	100	47	100
Characteristics Gender	Good		Fair		Less		Total	
	f	%	f	%	f	%	f	%
Male	28	76.7	10	83.3	1	100	37	78.7
Female	8	23.5	2	16.7	0	0.0	10	21.3
Total	34	100	12	100	1	100	47	100
Characteristcs	Good		Fair		Less		Total	
	f	%	f	%	f	%	f	%
Last Education								
Bachelor (S-1) Nursing	8	23.5	1	8.3	0	0.0	9	19.1
D-IV Anesthesiology Nursing	17	50.0	7	58.3	0	0.0	24	51.1
D-III Anesthesi	0	0.0	1	8.3	0	0.0	1	2.1

ology Nursing D-III Nursing	9	26.5	2	16.7	1	100	12	25.5
Others	0	0.0	1	8.3	0	0.0	1	2.1
Total	34	100	12	100	1	100	47	100

Characteristics	Good		Fair		Less		Total	
	f	%	f	%	f	%	f	%
Period of employment								
<5 Years	6	17.6	1	8.3	0	0.0	7	14.9
>5 Years	28	82.4	11	91.7	1	100.0	40	85.1
Total	34	100	12	100	1	100	47	100

Based on table 3 shows that the majority of respondents who have a good level of knowledge are aged 31-40 and 40> years, namely 15 respondents each (44.1%) and respondents who have a poor level of knowledge are also 31-40 years old as many as 1 respondent (100%).

Overview of Anesthesiologist Readiness Level in Banyumas Regency IBS towards BHD

Table 4. Distribution Analysis of Anesthesiologist Readiness Level at IBS Banyumas Regency (n=47)

Variable	Frequency (f)	Percentage (%)
Good	24	51.1
Fair	21	44.7
Less	2	4.3
Total	47	100

Table 4 reveals that out of 47 respondents, 24 (or 51.1% of the total) were well prepared for BHD, with 21 (44.7%) being adequately prepared and fewer than 2 (4.3% of the total) falling into the inadequate group.

Table 5. Distribution of Anesthesiologist Readiness Level Analysis in Banyumas Regency IBS towards BHD Based on Age, Gender, Education Level and Length of Service (n=47)

Characteristics	Readiness to perfom BHD actions							
	Good		Fair		Less		Total	
	f	%	f	%	f	%	f	%
Age								
21-30 Years	2	8.3	3	14.3	0	0.0	5	10.6
31-40 Years	9	37.5	12	55.1	2	100.0	23	48.9
>40 Years	13	54.2	6	28.6	0	0.0	19	40.4
Total	24	100	24	100	2	100	47	100

Characteristics	Good		Fair		Less		Total	
	f	%	f	%	f	%	f	%
Gender								
Male	2	8.3	3	14.3	0	0.0	5	10.6
Female	9	37.5	12	55.1	2	100.0	23	48.9
Total	11	100	21	100	2	100	47	100

Characteristcs	Good		Fair		Less		Total	
	f	%	f	%	f	%	f	%
Last Education	4	16.7	5	23.8	0	0.0	9	19.1
Bachelor (S-1) Nursing	14	58.3	10	47.6	0	0.0	24	51.1
D-IV Anesthesiology Nursing	1	4.2	0	0.0	0	0.0	1	2.1
D-III Anesthesiology Nursing	5	20.8	5	23.8	2	100.0	12	25.5
D-III Nursing	0	0.0	1	4.8	0	0.0	1	2.1
Others	24	100	21	100	2	100	47	100
Total	4	16.7	5	23.8	0	0.0	9	19.1

Characteristics	Good		Fair		Less		Total	
	f	%	f	%	f	%	f	%
Period of employment								
<5 Years	4	16.7	3	14.3	0	0.0	7	14.9
>5 Years	20	83.3	18	85.7	2	100.0	40	85.1
Total	24	100	21	100	2	100	47	100

The bulk of respondents who are prepared to carry out BHD acts are in the age bracket of 40 and above, with 13 respondents (54.2%) falling into this category (table 5). Two respondents (100%) in the 31–40 age bracket are less prepared to carry out BHD activities than the whole sample.

Table 5 reveals that 20 respondents, or 83.3% of the total, identify as male and are therefore more likely to be prepared to adopt positive BHD activities. Two responders (100 percent) have the trait of being less prepared to conduct BHD activities.

Table 5 shows that 14 responders (58.3% of the total) fall into the D-IV Anesthesiology Nursing Education Level category, indicating that they are prepared to execute excellent BHD activities. A lower level of preparedness to carry out BHD activities is indicated by the D-III Nursing Education Level, which is shown by two respondents (100%).

Table 5 shows that out of the total number of respondents, 20 (83.3%) are prepared to take good BHD actions, while 2 (100% of the total) are prepared to take poor BHD actions. This suggests that the majority of respondents have been in their current position for more than five years.

Discussions

Overview of Anesthesiologist's knowledge of Basic Life Support (BHD) in Anesthesiologists at IBS Banyumas Regency

Out of 47 respondents, 34 (72.3%) had an excellent degree of understanding on BHD, according to table 4.2. In other words, the vast majority of people who took the survey have grasped the idea of basic life support. What we know today is based on what we've learned or what we've experienced, and our body of knowledge becomes stronger the more we live. An individual's knowledge or cognitive abilities significantly impact their behaviors, or their overt conduct (11).

Previous research by [12] found that the level of knowledge of nurses in the ICU is good as many as 6 people (40%), enough as many as 4 people (26.7%), and less than 5 people (33.3%), supporting the idea that respondents with good knowledge should be ready to respond based on their knowledge. Based on the statistics, it seems that most nurses possess solid expertise.

All anesthesiologists were able to answer the ten-question knowledge level questionnaire correctly about the acronym CAB; nevertheless, at the point when it came to understanding how to interpret an airway examination, seven out of 38 anesthesiologists lacked enough knowledge. According to the researcher, the anesthesiologist's lack of understanding of BHD in point seven is likely the result of the anesthesiologist's inattention when reading the questions.

From this data, we may deduce that one responder, accounting for 2.1% of the total, is unfamiliar with the subject matter; moreover, we know that this individual goes by the initials RSMBP. Knowledge is the bedrock of competency as an anesthesiologist. There are several degrees of knowledge, but one of them is having a thorough comprehension of a subject (11).

Assuming that a BTCLS certificate is necessary for anesthesiologists to practice in IBS Banyumas Regency, the researcher is doing this study with the intention of improving the anesthesiologists' knowledge of BHD. The anesthesiologists' expertise has started to wane owing to a lack of awareness to update information, which is causing problems such BHD procedures and parameters that the anesthesiologists cannot react to.

Overview of Anesthesiologists' Knowledge Level of Basic Life Support (BHD) on Anesthesiologists based on age, gender, education level and tenure

If we use table 4. 3, The survey found that those aged 31–40 and over 40 made up the bulk of the knowledgeable respondents (44.1%). The ability to absorb new information and maintain a positive frame of mind are both impacted by age. When deciding if someone is ready, their level of maturity impacts their reasoning and decision-making [12]. Age is significantly related to knowledge, as an individual's degree of maturity is directly proportional to their level of thought and work maturity [14]. The capacity to absorb and process information grows with age, leading to better and more extensive knowledge acquisition [13].

Consistent with previous studies, this one revealed that the age group of 56–60 years old accounted for 100% of the respondents, while the age group of 26–35 years old accounted for 87.1%. The researchers at IBS Banyumas Regency are assuming that the anesthesiologists now employed there are in the productive age group. A person's ability to make sound decisions on the job, their wisdom, their capacity to think logically, their control over their emotions, and their tolerance for different perspectives are all factors that contribute to their level of productivity, which is expected to rise between the ages of 31 and 40 in this case [4]

According to the findings, out of all the anesthetic stylists surveyed, 26 (or 76.7% of the total) were male, and their knowledge level was rated as excellent. Both male and female nurses are equally responsible for delivering high-quality nursing care, according to earlier studies (Asmuji, 2010). What makes men and women different in terms of their anatomy and physiology is what is known as gender [15]. According to a study done by Tata Azzalia Khairan (2024), the greatest degree of expertise among health professionals is among males, with 17 individuals (89.5% of the total) falling into this group.

In this survey, 17 participants (or 50.0% of the total) had a DIV education level in anesthesiology nursing, indicating that the majority of anesthesiologists had a decent level of knowledge. Because it may make people more open to new ideas and technologies, education is another element that affects how people see the world [16]. Anesthesiologists who invest in their education will provide top-notch care by using efficient and effective nursing procedures. The reasoning for establishing anesthetic standards will be impacted by the degree of education of the anesthesiologist (17). The researcher presupposes that one's level of education is a necessary condition for performing an activity. Colleges and universities should improve their staffing programs to better prepare students for careers in human resources and other professional fields. According to this research, one's performance improves as their level of education rises [18-20].

Of the anesthetic stylists surveyed, 26 (or 76.7% of the total) identified as male, making them the most common kind of anesthesia stylist. forty-five percent of the responders are stylists with more than five years of experience. Anesthesiology stylists with years of experience in the field have honed their craft and developed a wide range of skills [21-23]. Consistent with earlier research, this study confirms that nurses gain expertise in dealing with, interpreting, and administering CPR actions as their terms of service in the ER and ICU increase [23]. The researcher supposes that a respondent's level of experience increases in direct proportion to the length of time they have worked. In contrast, less experience is obtained during shorter work periods. Work experience is a

great way to gain knowledge, abilities, and preparedness for the workforce.

Overview of Anesthesiologist Readiness in Performing BHD Actions

It is known from Table 4 that 24 respondents (51.1%) out of 47 had strong preparedness to perform BHD activities. The level of preparation to assist other humans in need is impacted by our inner sentiments and emotions. Out of the total number of responders, 21 (44.7%) found it to be adequate, while 2 (4.3%) found it to be insufficient. These findings are in line with Slameto's hypothesis, which proposes that skill is one of the characteristics that might enhance preparedness. Knowledge, experience, personal views, culture, key persons in one's life, and emotional elements are all potential determinants of an individual's willingness to provide a hand (24-28). This study's findings corroborate those of who found that 30 out of 100 nurses responded positively when asked about their preparedness to do CPR.

Anesthesiologists' level of preparedness to treat patients who have had a sudden, unexplained fall is one of ten questions measuring their readiness to carry out BHD procedures. Anesthesiologists typically respond with a "very ready" when faced with cases like the one mentioned earlier. However, when asked about their preparedness to use an AED (Automatic External Defibrillator) or other emergency response system in the case of a cardiac arrest, a small percentage of respondents chose "less ready" or "not ready" as their answer [29].

According to the study, the anesthesiologist's lack of preparedness to undertake BHD activities in point seven is a result of the absence of facilities, such as an automated external defibrillator (AED), in point three, which happens when a cardiac arrest happens outside of the hospital.

Table 4 shows that 2 responders (4.3%) fall into the "insufficient" group. SMBP and M are the initials of responders who are not adequately prepared. Respondents' lack of awareness about BHD might be the reason for their poor preparedness to undertake BHD. An attitude that demonstrates preparedness to behave in a certain manner towards specific objects has a significant impact on the execution of an action [30].

Bandura's theory defines self-efficacy as an individual's belief in his or her capacity to devise and implement a strategy to attain predetermined objectives. Good self-efficacy is necessary for people to be prepared to conduct BHD activities. In order for people to have faith in themselves and their BHD skills. Someone with high levels of self-efficacy will often have a disposition that indicates they are prepared to put their knowledge into practice. On the other side, being less precise when making judgments and defining attitudes might be a result of poor self-efficacy. People who lack confidence in their abilities are less likely to be prepared to take action [30].

Being prepared may be improved by having experience. The research found that knowledge was beneficial. The respondent's preparedness to execute BHD in the event that they encounter a victim with a comparable situation may be enhanced by acquiring knowledge and gaining experience in this area. This study's findings are in line with previous research on the preparedness of senior nursing students to conduct BHD; that is, a large percentage of respondents (n = 49, or 43.4% of the total) rated their preparedness as excellent.

Overview of Anesthesiologist Readiness in Performing BHD Actions based on age, gender, Education Level, and Length of Service

The majority of respondents who are prepared to do excellent BHD acts are in the age group of 40 and over, according to table 4.5. This group comprises 13 respondents (54.2%). Two respondents (100%) in the 31–40 age bracket are less prepared to carry out BHD activities than the whole sample. Consistent with the findings of Mulyanis et al. (2022), it is noted that 23 respondents (40.3%) fall within the age group of 31–40 years, while 1 respondent (100%), belonging to the 21–30 year age group, demonstrates a complete lack of understanding.

It is believed by researchers that a person's knowledge process changes with age. The capacity to recall things, particularly newly acquired knowledge, is best shown by those who are very young. Also, the capacity to recall things becomes worse with age due to the physiological decrease that everyone experiences.

Found that only 21 out of 40 respondents in the 20–40 age group were well prepared. Twenty respondents, or 83.3% of the total, exhibit male gender traits and are therefore more likely to be prepared to conduct excellent BHD behaviors, as shown in table 4.5. A total of two respondents (100 percent) exhibit masculine traits and are hence less likely to be prepared to take BHD action.

In the good category of health professionals' preparedness, 18 individuals (60% of the total) were male, according to Hasanah's study (2020). It is the researcher's working hypothesis that males are socialized from an early age to be more fearless, self-reliant, and prepared to handle any circumstance that may arise, even emergencies. Society has distinct expectations of men and women when it comes to handling emergencies, and women are often seen as more loving and emotional. It is commonly believed that women should seek assistance, whereas males should take action.

Table 4 reveals that fourteen respondents (58.3% of the total) fall into the D-IV Anesthesiology Nursing Education Level, which is associated with a high level of preparedness to carry out BHD procedures. A lower level of preparedness to carry out BHD activities is indicated by the D-III Nursing Education Level, which is shown by two respondents (100%). An individual's knowledge is directly proportional to their degree of education; broadly speaking, the more schooling a person has, the more they know. Knowledge is directly proportional to the amount of information a person is able to gather [22].

Higher levels of education are associated with better knowledge and skill utilization, which in turn improves a person's personality and their capacity to do things [23]. Twenty respondents (83.3%) who are prepared to take good BHD actions fit the profile of a work period of> 5 years, according to table 4.5. Similarly, two respondents (100% of the total) who are not prepared to take good BHD actions fill the same profile.

The new work category respondents in the study by [17], have been with the company for 1 to 5 years. Because nurses do not work for too long, they have sufficient expertise. In cases where the data indicated that most nurses with 6-10 years of experience had strong knowledge [32]. Researchers believe that the amount of time nurses spend on the job is a good indicator of their quality; specifically, the longer a nurse has been in the field, the more experience she has had, which means she has learned more about BHD and how to do it well.

Limitations

A potential source of bias in this work is the use of the Google Forms measuring instrument, which allows

researchers to quickly access references during data collection.

Conclusion

From the results of this study on the knowledge and readiness of anesthesiologists at the Central Surgical Installation of Banyumas Regency on Basic Life Support (BHD), it can be inferred that most of the respondents were male, aged 31-40 years, and with a degree in DIV-Nursing Anesthesiology. Meanwhile, most of the respondents had worked for the organization for more than five years. A huge part of the anesthesiologists showed fair knowledge of BHD, and more than half high readiness for performing BHD procedures according to the readiness questionnaire. These results indicate a high level of preparedness and knowledge among anesthesiologists at the IBS Banyumas Regency while presenting a potential for further development in specific areas.

Acknowledgment

The authors express sincere gratitude to Universitas Harapan Bangsa for its invaluable academic support throughout this research. We also extend our appreciation to Hospital Banyumas Regency for facilitating data collection and providing the necessary resources for this study.

Funding Information

None

Conflict of Interest Statement

The authors have confirmed that they have no competing interests.

Data Availability

The datasets used or generated in this study are available from the corresponding author upon reasonable request.

Author Contributions

Nurul Hidayati: Conception and design of the study, Search Data Base, Methodology, Analysis Risk of Bias, Data Analysis and Interpretation, Writing, Review and Editing. **Asmat Burhan:** Study conception and design, search database, methodology, data analysis and interpretation, and writing, review, and editing. **Rahmaya Nova Handayani:** Conception and design of the study, Search Database, Methodology, Data Analysis, and Interpretation, Writing, Review, and Editing

References

1. Abebe Ta, Zeleke Lb, Assega Ma, Sefefe Wm, Gebremedhn Eg. Health-Care Providers' Knowledge, Attitudes, And Practices Regarding Adult Cardiopulmonary Resuscitation At Debre Markos Referral Hospital, Gojjam, Northwest Ethiopia. Adv Med Educ Pract. 2021;12:647–54.
2. Irianti Dn, Irianto Mg, Jausal An, Kedokteran F, Lampung U, Ilmu B, Et Al. Henti Jantung Intra Operatif Intra-Operative Cardiac Arrest. Majority. 2018;7(3):217–21.
3. Moitra Vk, Einav S, Thies Kc, Nunnally Me, Gabrielli A, Maccioli Ga, Et Al. Cardiac Arrest In The Operating Room: Resuscitation And Management For The Anesthesiologist: Part 1. Anesth Analg. 2018;126(3):876–88.
4. Hinkelbein J, Andres J, Böttiger Bw, Brazzi L, De Robertis E, Einav S, Et Al. Cardiac Arrest In The Perioperative Period: A Consensus Guideline For Identification, Treatment, And Prevention From The European Society Of Anaesthesiology And Intensive Care And The European Society For Trauma And Emergency Surgery. Eur J Trauma Emerg Surg [Internet].

2023;49(5):2031–46. Available From: Https://Doi.Org/10.1007/S00068-023-02271-3
5. Santoso T, Hikmah Dn, Afrida M. Studi Literatur: Pendidikan Kesehatan Berpengaruh Terhadap Tingkat Pengetahuan Bantuan Hidup Dasar (Bhd). J Midwifery, Nurs … [Internet]. 2021;1(2):6–13. Available From: Http://Thejournalish.Com/Ojs/Index.Php/Jmnh/Article/View/154%0ahttp://Thejournalish.Com/Ojs/Index.Php/Jmnh/Article/Download/154/119
6. Saputro S, Afni A, Suparmanto G. Peningkatan Ketrampilan Bhd Dengan Demontrasi Ems Pada Remaja Di Desa Sumberbulu Kecamatan Mojogedang. 2023;5(3):645–54. Available From: Http://Jurnal.Globalhealthsciencegroup.Com/Index.Php/Jpm
7. Mersha At, Gebre Egzi Ahk, Tawuye Hy, Endalew Ns. Factors Associated With Knowledge And Attitude Towards Adult Cardiopulmonary Resuscitation Among Healthcare Professionals At The University Of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia: An Institutional-Based Cross-Sectional Study. Bmj Open. 2020;10(9):1–11.
8. Tsegaye W, Tesfaye M. Knowledge, Attitude And Practice Of Cardiopulmonary Resuscitation And Associated Factors In Ethiopian University Medical Students. J Gen Pract. 2015;03(04).
9. Wijaya Ik. Hubungan Tingkat Pengetahuan Perawat Tentang Bantuan Hidup Dasar Dengan Respon Time Pada Pasien Gangguan Nafas Dan Gangguan Sirkulasi Di Igd Rsup Dr. Wahidin Sudirohusodo Makassar. J Ilm Keperawatan [Internet]. 2022;10(2):1–7. Available From: Http://Dx.Doi.Org/10.1016/J.Ndteint.2014.07.001%0ahttps://Doi.Org/10.1016/J.Ndteint.2017.12.003%0ahttp://Dx.Doi.Org/10.1016/J.Matdes.2017.02.024
10. Tomas N, Kachekele Za. Nurses' Knowledge, Attitudes, And Practice Of Cardiopulmonary Resuscitation At A Selected Training Hospital In Namibia: A Cross-Sectional Survey. Sage Open Nurs. 2023;9.
11. Notoatmodjo S. Promosi Kesehatan Dan Ilmu Perilaku [Internet]. Jakarta: Rineka Cipta; 2010. Available From: Https://Lib.Fkm.Ui.Ac.Id/Detail.Jsp?Id=54239&Lokasi=Lokal
12. Ngurah Igp. Pengaruh Pelatihan Resusitasi Jantung Paru Terhadap Kesiapan Sekaa Teruna Teruni Dalam Memberikan Pertolongan Pada Kasus Kegawatdaruratan Henti Jantung. J Gema Keperawatan12-22 [Internet]. 2018; Available From: Https://Ejournal.Poltekkes-Denpasar.Ac.Id/Index.Php/Jgk/Article/View/659
13. Harigustian Y. Tingkat Pengetahuan Penanganan Tersedak Pada Ibu Yang Memiliki Balita Di Perumahan Graha Sedayu Sejahtera. J Keperawatan. 2020;12(3):162–9.
14. Mulyanis, Suryani Rl, Ningrum Ew. Tingkat Pengetahuan Petugas Kesehatan Mengenai Bantuan Hidup Dasar (Bhd) Di Rumah Sakit Kesrem Lhokseumawe Aceh Pada Tahun 2022. J Nurs Heal [Internet]. 2022;7:232–41. Available From: Https://Jurnal.Politeknikyakpermas.Ac.Id/Index.Php/Jnh/Article/View/192
15. Wade C, Tavris C. Psikologi. 9th Ed. 2007.
16. Pradanti Nr, Prastiwi A. Analisis Pengaruh Love Of Money Terhadap

Persepsi Etis Mahasiswa Akuntansi. Diponegoro J Account [Internet]. 2014;3(3):1–12. Available From: Http://Ejournal-S1.Undip.Ac.Id/Index.Php/Dbr

17. Sesrianty V. Hubungan Tingkat Pendidikan Dan Masa Kerja Dengan Keterampilan. Perintis's Heal J. 2018;5(2):30–42.
18. Wandira F, Andoko, Gunawan Mr. Hubungan Tingkat Pendidikan Dan Masa Kerja Dengan Keterampilan Perawat Dalam Melakukan Komunikasi Terapeutik Di Ruang Instalasi Gawat Darurat (Igd) Rumah Sakit Pertamina Bintang Amin. Angew Chemie Int Ed 6(11), 951–952 [Internet]. 2022;4(April):3155–67. Available From: Https://Ejurnalmalahayati.Ac.Id/Index.Php/Manuju/Article/View/7643/Pdf
19. Rahmawati D, Kusumajaya H, Anggraini Rb. Faktor-Faktor Yang Berhubungan Dengan Keterampilan Perawat Dalam Tindakan Resusitasi Jantung Paru. J Penelit Perawat Prof [Internet]. 2023;5(2):539–50. Available From: Http://Jurnal.Globalhealthsciencegroup.Com/Index.Php/Jppp%0a
20. Notoatmodjo S. Ilmu Perilaku Kesehatan. In Jakarta: Rineka Cipta; 2014. Available From: Https://Books.Google.Co.Id/Books/About/Kesehatan_Masyarakat.Html?Id=Ghfrnwaacaaj&Redir_Esc=Y
21. Utariningsih W, Millizia A, Enggola Handayani R. Hubungan Tingkat Pengetahuan Bantuan Hidup Dasar (Bhd) Dengan Kesiapan Melakukan Tindakan Bhd Pada Mahasiswa Keperawatan Di Perguruan Tinggi Kota Lhokseumawe. J Ilm Mns Dan Kesehat. 2022;5(3):435–44.
22. Indiyana A, Utami Rdp. Hubungan Antara Parental Awareness Dengan Kemandirian Adl (Activity Daily Living) Pada Anak Autis Di Slb Ypac Prof. Dr. Soeharsono Surakarta. 2022; Available From: Https://Eprints.Ukh.Ac.Id/Id/Eprint/3612/1/Naspub Fixxxxxxx 1.Pdf
23. Yuliano A, Herlindawati M, Suryati I. Hubungan Karakteristik Perawat Dengan Pemahaman Penerapan Resusitasi Jantung Paru (Rjp) Di Ruangan Igd Dan Icu Rsud Dr. Achmad Mochtar Bukittinggi Tahun 2017. J Kesehat Perintis (Perintis's Heal Journal) [Internet]. 2018;5(1):91–8. Available From: Https://Www.Jurnal.Upertis.Ac.Id/Index.Php/Jkp/Article/View/104.
24. Assyifa I, Sukmaningtyas W, Burhan A. An Overview Of The Level Of Occupational Stress Of Anesthesiologists In The Surgical Room Of The Hospital In The Banyumas District Area: English. Java Nurs J. 2023 Oct 16;1(2):103–10.

25 Achmad Fadilah R, Sukmaningtyas W, Burhan A. The Correlation Between Motivation And Anesthetists' Working Performance In Banyumas Regency: English. Java Nurs J. 2023 Oct 16;1(2):51–8.

26. Area Dhiatamaa S, Sukmaningtyas W, Burhan A. The Overview Of Knowledge Level Of Seven Semester Students Of Anesthesiology Nursing Study Program On Evidence Based Practice 2 Course At Harapan Bangsa University Purwokerto: English. Java Nurs J. 2023 Oct 16;1(2):68–76.
27. Elangga Mw, Suryani Rl, Burhan A. Hubungan Tingkat Pengetahuan Pasien Tentang Tindakan Anastesi Dengan Kecemasan Di Ruang Persiapan Instalasi Bedah Sentral Di Rsi Banjarnegara [Internet]. Zenodo;

2024 [Cited 2024 Sep 12]. Available From: Https://Zenodo.Org/Doi/10.5281/Zenodo.11171027

28. Wardani Ipy, Sebayar Sm, Burhan A. The Effect Of Butterfly Hug On Reducing Anxiety In Pre-Operation Patients At Jatiwinangun Hospital, Purwokerto. 2024 Dec 10 [Cited 2025 Feb 8]; Available From: Https://Zenodo.Org/Doi/10.5281/Zenodo.14564295
29. Romdani Rm, Burhan A, Wibowo Th, Suandika M. Efektivitas Aromaterapi Cajuput Oil Terhadap Post Operative Nausea And Vomiting (Ponv) Pada Pasien Elektif Dengan General Anestesi Di Rsud Dr. Soekardjo Kota Tasikmalaya. J Kesehat Tambusai. 2024 Nov 29;5(4):11133–42.
20. Triyadi F, Mixrova Sebayang S, Burhan A, Dwi Agus Yulianto, Refa Teja Muti. The Relationship Between Age And Duration Of Surgery With The Incidence Of Post Anesthesia Shivering In Section Caesarean Patients At Bendan Hospital Pekalongan City. Java Nurs J. 2024 Feb 1;2(1):7–14.
31. Angin Sep, Novitasari D, Burhan A. Volume 6 Number 1, Februari 2024 E-Issn 2715-1972; P-Issn 2714-9749 Http://Jurnal.Globalhealthsciencegroup.Com/Index.Php/Ijghr. 2024;6(1).
32. Permata Pp, Burhan A, Handayani Rn. Pengaruh Pemberian Aromaterapi Peppermint Terhadap Post Operative Nausea And Vomiting (Ponv) Post Operasi Spinal Anestesi Di Rsud 45 Kuningan. J Inov Glob. 2024 Oct 27;2(10):1517–34.